

Autonomy support and motivation in private music students: the role of basic psychological needs

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ABSTRACT

The objective of this research was to measure the impact of autonomous support and expectancy beliefs on autonomous motivation of students. The study investigated the impact of basic psychological needs on autonomous support. Furthermore, the mediating role of basic psychological needs is also analyzed. Using simple random sampling, the study collected cross-sectional data from 305 students on a Likert scale questionnaire at private music schools located in Nanchang, China. SPSS 26 and Smart PLS 4 are used for descriptive and inferential statistics and findings. The study found that autonomy support, expectancy beliefs and basic psychological needs have a significant impact on autonomous motivation. The study also found that autonomy support and expectancy beliefs also have significant influence on basic psychological needs. While the study found that basic psychological needs mediate the impact of autonomy support and expected beliefs on autonomous motivation. In addition, measuring the dimension of autonomous support, the study found that parental support and teachers' support have a significant impact on autonomous motivation. While the study found that parental support and teachers' support also have a significant impact on basic psychological needs. The study further confirmed that basic psychological needs positively mediate the impact of parental support and teachers' support on autonomous motivation.

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1. INTRODUCTION

The role of self-motivation is important in human learning and performance. Self-motivation helps to progress in different tasks which are necessary to perform. However, this self-motivation is not possible for all the people [1]. Due to social and psychological factors, many students are limited to perform their goals which reduces their learning. The role of motivation is necessary to improve the performance of students which acts as a significant factor to grow their personality [2]. However, the motivation is required to perform any task but it can be supported by external factors such as parents and teachers. According to Jeno *et al.* [3], the role of parents' support and teachers' support is important for the wellbeing and performance of students. It makes them work in any condition as they are internally and externally motivated. It makes them capable of perform different tasks to achieve their goals [4]. However, it is not possible for every student to perform their target goals.

The autonomous motivation of the students is defined as their behavior to perform different tasks which are based on their self-achievement. When the students are motivated, it becomes easy for them to

achieve their task [5]. Nevertheless, it is critical for the students to develop their behavior for autonomous motivation [6]. The Chinese school students are facing the problems regarding to autonomous motivation [7]. According to Yue and Lu [8], the less autonomous motivation of the students leads them to stress which reduces their overall performance. Wei *et al.* [9] found that without autonomous motivation, the performing capability of the students is reduced as they have no fun in their working. Previous studies [10], [11] discussed that autonomous motivation is necessary for the students to improve their behavior. Study by Hornstra *et al.* [11] denoted that intrinsic and extrinsic motivation are the significant predictors to influence the autonomous behavior of the students. The study by Parrisius *et al.* [12] pointed out that autonomous motivation of students should be addressed timely to improve their overall performance.

In the existing studies, there is a debate by scholars regarding the predicting factors of autonomous motivation of students. Study by Tang *et al.* [13] concluded that when students are interested to perform any task, it influences their autonomous motivation. Howard *et al.* [14] found that the intention of students to actively participate in any activity with a goal is significant factor to influence their autonomous motivation. Another study by Wehmeyer and Shogren [15] discussed that autonomous motivation is significant factor to influence the students with their active performance that is necessary to achieve the target goals. On the other hand, Kingsford-Smith and Evans [16] pointed out that autonomous motivation absence is serious problem for students as they are no longer motivated to achieve their goals. Whereas, Coterón *et al.* [17] highlighted that studies autonomous motivation should be addressed timely to develop their interest in performing different tasks. Furthermore, the study by Johansen *et al.* [18] asserted that the students should be motivated to develop their positive behavior and develop autonomous motivation for any task. This research was conducted to measure the impact of student perceived autonomous support, expectancy beliefs on autonomous motivation. The study also investigated the impact of basic psychological needs on autonomous support.

In theoretical standpoint, The support to the students is necessary for improving their overall behavior [19]. The support from the parents and teachers is necessary to the students. When the students are highly motivated, they develop significant approach to achieve their target with motivation [12]. Therefore, the role of motivation is considered as significant to achieve the targets. On the other hand, the less motivation to the students has negative influence on their personality as they hesitate to achieve their targets [20]. In this way, the role of motivation to the students is considered critical for significant achievement of goals. Furthermore, when the students are motivated and they are working actively, it becomes necessary for them to get the motivation [21]. Meanwhile, the parents and teachers are required to support the students whatsoever is required to improve their overall performance and understanding [22], [23]. It is necessary for the students to develop positive psychology which is helpful to achieve their goals [24]. The motivation from both internal and external sources are required to influence students that make them satisfied to achieve their target goals [25]. Therefore, the role of perceived autonomy is considered as significant when achieving the target goals and student perceived autonomy is considered as critical factor. Thus, the hypotheses were: i) Students' perceived autonomy support is positively related to autonomy motivation (H1); ii) Students' perceived autonomy support from parents is positively related to autonomy motivation (H1a); iii) Students' perceived autonomy support from teacher positively related to autonomy motivation (H1b).

Expectancy beliefs are the extent to which a person feels that they can be successful in the task, including their own beliefs and abilities [26]. The student's expectancy is improved when they have a significant approach to achieve their goals. It is useful way to believe on their abilities which helps to improve their behavior for significant working [14]. Furthermore, the support to the students to achieve their goals is helpful when they are positively motivated for it [27]. When the students are self-confident, their vision is clear to achieve their target tasks. It helps the students to improve their behavior which is critical to their autonomous performance [28]. Thus, the hypothesis was formulated as: students' expectancy beliefs are positively related to autonomous motivation (H2).

Students' perceived autonomy is helpful for them to perform different tasks [29]. It is necessary to improve their psychological wellbeing which helps them to boost their performance. When the parents are supporting the students, they can support them better to achieve their targets [17]. However, the little support from parents can be a factor which can reduce the performance of students. On the other hand, the motivation level of students changes with time which is significant to influence the overall performance of students [30]. Further, when the students are motivated by their teachers, it helps them to fulfil their basic psychological needs. The fulfilment of psychological needs provides a sense of autonomy to the students which is critical to their performance [18]. Furthermore, the autonomy support to the students is helpful as it increases their motivation to achieve the targets. Therefore, the students are required to have good relationships with parents and teachers which can advance their overall learning and performance [23]. Meanwhile, if the students are less satisfied with their autonomy support, it becomes difficult for them to work significantly to achieve their basic psychological needs [31]. Following this, the autonomy of the students is considered as a significant factor in influencing their performance. Thus, the hypotheses were: i) Students' perceived autonomy support is positively related to basic psychological needs (H3); ii) Students' perceived autonomy support from

parents is positively related to basic psychological needs (H3a); iii) Students' perceived autonomy support from teacher is positively related to basic psychological needs (H3b).

The expectancy of students helps to achieve the target goals [32]. When the students are motivated and supported, they tend to fulfil their psychological needs. It helps them to grow and learn the better way to deal with the situation [33]. Furthermore, the expectancy of students is a necessary factor which can support their goals achievement. It is necessary for the students to believe on their abilities as these abilities have significant influence on the personality of students [34]. It is highly recommended that the students should work positively which can foster their learning approaches [11]. Furthermore, Hernández *et al.* [35] discussed that the student expectancy about the successful achievement of tasks improves their behavior to achieve psychological needs. Thus, the hypothesis was formulated as: students' expectancy beliefs are positively related to basic psychological needs (H4).

The motivation to achieve the psychological needs helps the students to develop appropriate motivation [36]. Besides, this motivation is useful for the students when they are psychologically strong to achieve their target [37]. The basic needs of the students are fulfilled when they have a significant approach to accomplish their goals and get support from motivation. However, the motivation is necessary to influence students for achieving their target goals [38]. The significant working of students helps them to get proper support from the parents which improves their working [39]. Therefore, the achievement or struggle to fulfil the psychological needs help the students to work on autonomous motivation which influences their performance critically [23]. Thus, the hypothesis was formulated as: basic psychological needs are positively related to autonomous motivation (H5).

The basic psychological needs of the students are significant to improve their autonomous motivation [40]. The students feel satisfaction when they are supported by the parents. Parental support to the students to achieve their goals is necessary to influence their overall behavior [13]. Meanwhile, the support from the teachers is also significant for the students to improve their overall behavior. It is necessary for the teachers to support the students to achieve their goals. It helps them to accomplish their goals and autonomy [41]. Therefore, their motivation is influenced when they have proper support. Similarly, the accomplishment of goals are necessary when the basic psychological needs are fulfilled. It motivates students to more focus on their goals which are necessary to strengthen their motivation level [30]. The autonomy of the students is necessary to improve their performance, which is considered a significant factor influencing their overall behavior [42]. Additionally, perceived support from teachers and parents is significant for the students to help the improvement in their behavior and their autonomy motivation [37]. Thus, the hypotheses were: i) Basic psychological needs mediate between students' perceived autonomy support and autonomy motivation (H6); ii) Basic psychological needs mediate between students' perceived autonomy support (parents) and autonomy motivation (H6a); iii) Basic psychological needs mediate between students' perceived autonomy support (teacher) and autonomy motivation (H6b).

The psychological needs fulfillment is necessary for the students to improve their expectation [39]. There is an important role of expectations of the students which helps to motivate them for their goals. When the psychological needs of the students are fulfilled, they feel confident to achieve their goals [43]. Whereas the less motivation and unfulfilled psychological needs of the students leads them negatively to perform their tasks. Furthermore, the students should have an expectancy about targeting their goals which can improve their sense of direction [36]. Meanwhile, it is recommended that the students should work critically to achieve their target goals [38]. It helps them to improve their behavior which is necessary to achieve the target goals [40]. Therefore, the motivation level of the students is increased with the increase of their motivation. Finally, the last hypothesis of the study was: basic psychological needs mediate between expectancy beliefs and autonomous motivation (H7). The model of this research is illustrated in Figure 1.

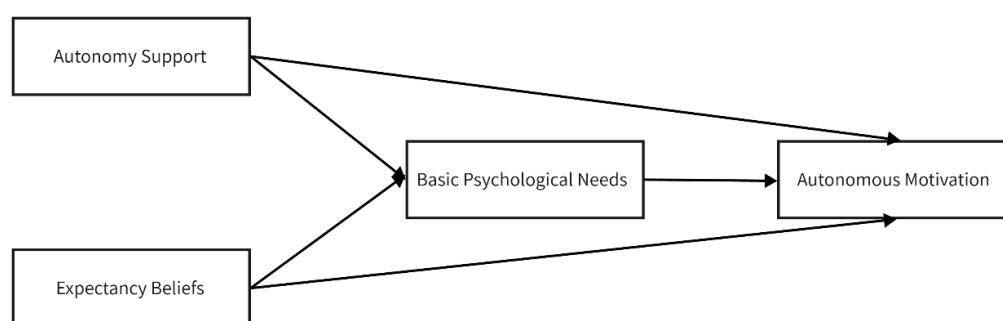


Figure 1. Research model

2. METHOD

This research is based on quantitative data. Previous studies in the same area of literature are also based on quantitative data. The purpose of this research was to provide novel findings using empirical findings. Therefore, the objective of this study was achieved by analyzing the empirical data. The study measured autonomy support from the perspective of students by considering parents and teachers. Furthermore, the expectancy beliefs of the students were also measured quantitatively. The population of this study were students at private music schools in China. Specifically, the schools in Nanchang China were considered as population to collect the data. These students were targeted as they had knowledge to provide responses to the questions. However, Nanchang was targeted as geographically this place provide diversity of students to analyze the findings. Hence, the findings of this study can be generalized to rest of China.

The instruments to measure the construct autonomy support (parents and support) were taken from previous study by Zhou *et al.* [44]. Furthermore, the instruments to measure expectancy beliefs were taken from Ball *et al.* [45]. Meanwhile, the instruments for measuring basic psychological needs were taken from Zhou *et al.* [46]. Whereas, the instruments to measure autonomous motivation were taken from Liu [47]. These instruments were reliable and valid to collect the data. According to Sekaran and Bougie [48], when the instruments of any variable achieve reliability with coefficients such as Cronbach's alpha >0.70 , the scale is considered significant to use in the future studies. Therefore, the scale of the study was finalized to collect the data. The instruments are reported in Table 1. However, the questionnaire of the study was prepared in two sections. The first section was to collect the demographics information. While the second section was designed to collect data related to questions such as instruments for each variable.

Table 1. Survey questionnaire items

Variable	Construction	Items
Autonomy support	Parental support	I feel like my mom and dad have given me options
		I feel like my mom and dad can understand me
		My dad/mom believed that I could do well in my music exams/performance practice, which gave me confidence
		My dad/mom will listen to me
		My dad/mom would try to ask me how I felt about it when pointing out a practice problem
	Teachers' support	I feel like my teachers have given me options
		I felt like my teachers understood me
		My teacher believed that I could do well in my music exams/performance practice, which gave me confidence
		My teachers will listen to me
		My teacher tries to understand how I see the problem before pointing out a problem or learning something new
Expectancy beliefs		My playing skills are the same as most kids my age
		I usually get good grades in my music exams
		My ability to read music is as good as most children my age
		I did well in the instrumental competition
Basic psychological needs	Autonomy	I was able to complete the exercises assigned by the teacher very well
		In the class of leaning/practicing an instrument, I felt like I was doing what I wanted
		In the class on learning/practicing an instrument, I feel like I can choose what tunes to play
	Competence	In the class on learning/practicing an instrument, I felt that my participation was voluntary
		In the class where I learned/practiced an instrument, I felt that I could play good music
		In the class on learning/practicing an instrument, I felt that I was gifted
	Relatedness	In the class of learning/practicing an instrument, I felt that I was doing what the teacher asked me to do
		In the class on learning/practicing musical instruments, I feel that there are classmates here that I like
		In the class of learning/practicing an instrument, I felt like I was part of the class
		In the class of learning/practicing an instrument, I felt that someone here cared about me
Autonomous motivation	Intrinsic	Because I enjoy playing music
		Because I love playing my instrument
		Because it is interesting to learn more about how to play my instrument
		Because I enjoy being able to master more difficult pieces
	Identified	To improve my understanding of music
		Because music is important to my personal growth
		Because I want to learn new techniques so I can play my instrument better
	Introjected	Because I would feel proud of myself if I did well in the class
		Because I would feel guilty if I performed poorly
		Because I would feel bad if I didn't follow my teacher's instruction
	External	Because I want others to see that I am a good musician
		Because others might think badly of me if I didn't
		Because I would get a bad grade if I didn't do what was suggested
		Because I want the teacher to say nice things about me
		Because it can help me to get good grades in music exams or performance practice

Nevertheless, the study used cross-sectional data to collect the data. It was significant to collect data using cross-sectional method because only one time data was required for this research. Furthermore, the study used simple random sampling to collect the data. Simple random sampling was used in this research because all the information about the respondents were available in the register of schools. The information about the students were collected from ten schools. The respondents' names were added into the excel sheet and formula for selecting random sample was used. In this way, the questionnaires were only distributed to those students selected with simple random sample method. According to Hair *et al.* [49], a small number of samples can be used to analyze the data using Smart PLS 4. For this research, 500 questionnaires were distributed to the students. The students were requested to provide data on time. For this purpose, the management of schools was consulted. However, 332 responses were collected back and it is believed that non-respondents were not comfortable to provide data for the study. While a final sample of 305 responses was used and other responses were deleted during the preliminary analysis. A total of 25 responses were removed from the collected responses due to inconsistency in response. Furthermore, the final sample of the study was analyzed using SPSS 26 and Smart PLS 4. The findings of measurement model assessment and structural model assessment are performed to analyze the data.

3. RESULTS

SPSS 26 was used in this study to analyze the demographic data of the study. According to Table 2, 50% respondents of the study were male while 49% were female. Furthermore, 33% of the participants were in the age group of seven years and below. Furthermore, 33% of the respondents were from the age group 8-10 years. The remaining 34% of the participants were from the age group 11-12 years. Regarding the level of education, 32% of the respondents were from grade 1 or below and 34% were from grade 2-4. Whereas 34% of the participants were from grade 5-6. Moreover, 26% of participants were interested in guzheng, 23% were interested in piano, 27% were interested in violin and 24% were interested in other musical instruments. Whereas 44% of participants were in study periods of 3-6 years and 56% were in study periods of more than 6 years. 10% of the participants were in study duration of one time per week, 11% were in less than three times per week and 28% were in 3-6 times per week. However, only 51% of participants were in study duration of more than six times per week. In class frequency, 21% of participants were in once a week, 11% were in two to three times a week and 23% were in more than 4 times a week. Finally, 61% participated got class frequency more than 6 times a week.

Furthermore, Smart PLS 4 was used in this research to analyze the relationship between variables. The findings of factor loadings >0.70 [50] were tested to determine the reliability of individual items. Furthermore, the findings of variance inflation factor ($VIF < 3.3$) were tested to determine the multicollinearity issues in the data. The results in Figure 2 and Table 3 confirmed that individual items reliability was achieved as all instruments have factor loadings above 0.70. Whereas the findings in Table 3 confirmed that all instruments were free from multicollinearity issues. Therefore, the data was considered significant to analyze further.

Table 2. Demographics

Variable	Level	Counts	Total	Percentage (%)
Gender	Male	154	305	51
	Female	151	305	49
Age	7 years and below	99	305	33
	8-10 years	100	305	33
	11-12 years	106	305	34
Grade	Grade 1 or below	96	305	32
	Grade 2-4	105	305	34
	Grade 5-6	104	305	34
Musical instruments	Guzheng	78	305	26
	Piano	71	305	23
	Violin	81	305	27
	Other	75	305	24
Study period	3-6 Years	133	305	44
	6+ years	141	305	56
Study duration	1 time/week (not less than 30 minutes)	31	305	10
	Less than 3 times/week (less than 90 minutes)	32	305	11
	3-6 times/week (more than 90 minutes, less than 180 minutes)	86	305	28
	More than 6 times/week	122	305	40
Class frequency	Once a week	65	305	21
	Two to three times a week	32	305	11
	More than 4 times a week	86	305	28
	More than 6 times a week	187	305	61

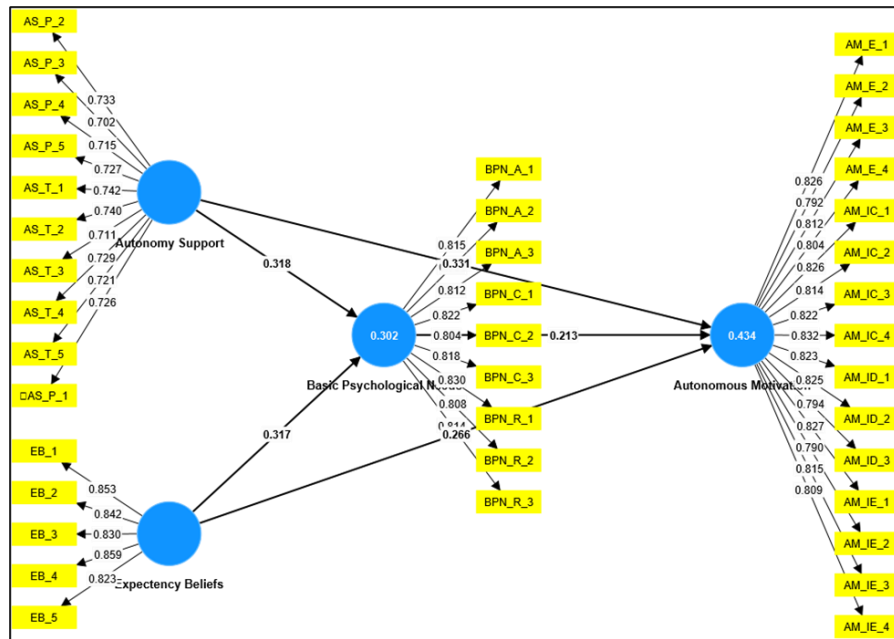


Figure 2. Measurement model

Table 3. Factor loadings and variance inflation factor

Variables	Autonomous motivation	Autonomy support	Basic psychological needs	Expectancy beliefs	VIF
AM_E_1	0.826				2.897
AM_E_2	0.792				2.487
AM_E_3	0.812				2.799
AM_E_4	0.804				2.65
AM_IC_1	0.826				2.83
AM_IC_2	0.814				2.71
AM_IC_3	0.822				2.803
AM_IC_4	0.832				3.046
AM_ID_1	0.823				2.852
AM_ID_2	0.825				2.905
AM_ID_3	0.794				2.474
AM_IE_1	0.827				2.886
AM_IE_2	0.79				2.484
AM_IE_3	0.815				2.723
AM_IE_4	0.809				2.792
AS_P_1		0.726			2.187
AS_P_2		0.733			2.208
AS_P_3		0.702			2.317
AS_P_4		0.715			2.213
AS_P_5		0.727			2.166
AS_T_1		0.742			2.326
AS_T_2		0.74			2.216
AS_T_3		0.711			2.145
AS_T_4		0.729			2.135
AS_T_5		0.721			2.109
BPN_A_1			0.815		2.376
BPN_A_2			0.796		2.241
BPN_A_3			0.812		2.384
BPN_C_1			0.822		2.496
BPN_C_2			0.804		2.401
BPN_C_3			0.818		2.478
BPN_R_1			0.83		2.658
BPN_R_2			0.808		2.367
BPN_R_3			0.814		2.359
EB_1				0.853	2.41
EB_2				0.842	2.219
EB_3				0.83	2.141
EB_4				0.859	2.45
EB_5				0.823	2.17

The measurement model test was also performed to determine the convergent validity of the data. The findings of Cronbach’s alpha >0.70 and composite reliability >0.70 were tested to determine the reliability and validity of the scale [49]. The findings in Table 4 confirmed that all the scale items significantly achieved Cronbach’s alpha and composite reliability threshold. Similarly, the findings of average variance extracted >0.50 were checked to determine the variance in the data [49]. The findings in Table 4 also confirmed that average variance extracted was significantly achieved. Hence, the results in Table 4 confirmed that all instruments have significant variance.

The discriminant validity was also tested in this study to determine the multicollinearity issues in the data at a variable level. The study used heterotrait-monotrait (HTMT<0.85) method to measure the discriminant validity [51]. It is used to test if the variables of the study have same instruments of different concepts are measured by different instruments. The findings in Table 5 confirms that all instruments have significant discriminant validity because no value was above 0.85. Hence, the data of the study confirmed a significant threshold for discriminant validity.

Finally, the structural model assessment was performed to measure the relationship between variables of the study. However, this test was performed in two levels: the first level was used to test the direct and mediating relationship between variables and second level was to measure the mediating relationships only as shown in Figures 3 and 4. The hypotheses of the study were tested with $t>1.96$ [50], as shown in Table 6. The study found that students’ perceived autonomy support is positively related to autonomy motivation and H1 was supported. Furthermore, the study found that students’ perceived autonomy support from parents and teachers have a significant impact on autonomy motivation. Hence, H1a and H1b were also supported.

Table 4. Convergent validity

Construct	Cronbach’s alpha	Composite reliability	Average variance extracted
Autonomous motivation	0.964	0.964	0.663
Autonomy support	0.9	0.901	0.525
Basic psychological needs	0.936	0.936	0.661
Expectancy beliefs	0.897	0.898	0.708

Table 5. Discriminant validity

Construct	Autonomous motivation	Autonomy support	Basic psychological needs	Expectancy beliefs
Autonomous motivation				
Autonomy support	0.603			
Basic psychological needs	0.521	0.515		
Expectancy beliefs	0.57	0.551	0.517	

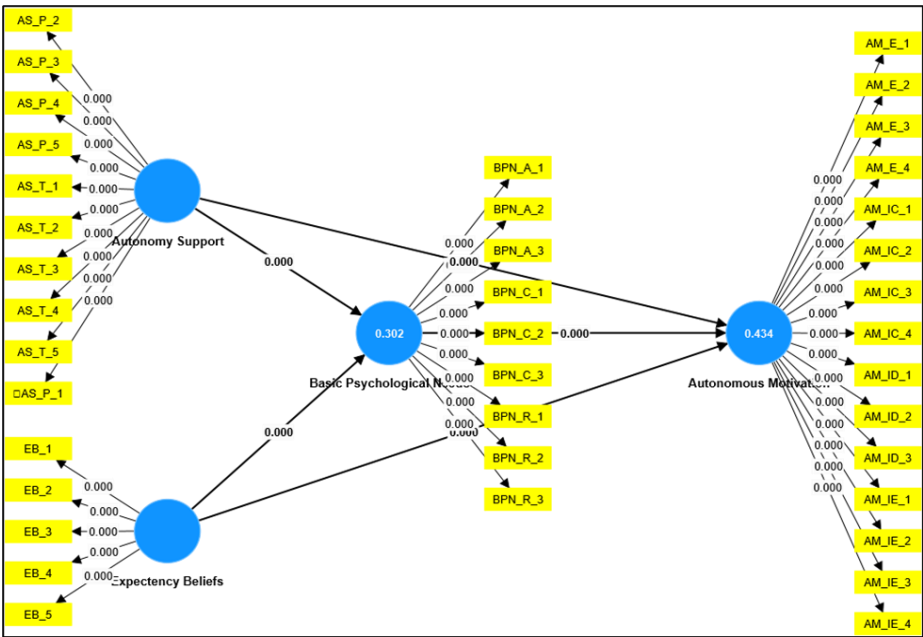


Figure 3. Structural model (first analysis)

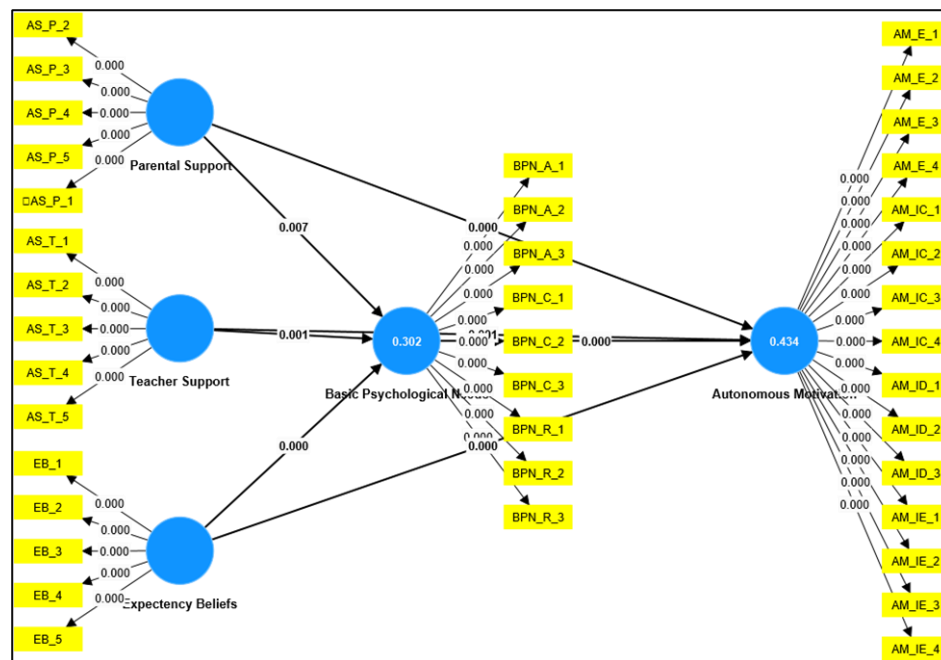


Figure 4. Structural model (second analysis)

Table 6. Path findings

No	Relationships	Original sample	Sample mean	Standard deviation	T statistics	P values
H1	Autonomy support->autonomous motivation	0.331	0.333	0.050	6.662	0.000
H1a	Parental support->autonomous motivation	0.209	0.210	0.056	3.713	0.000
H1b	Teacher support->autonomous motivation	0.171	0.171	0.051	3.312	0.001
H2	Expectancy beliefs->autonomous motivation	0.266	0.264	0.051	5.190	0.000
H3	Autonomy support->basic psychological needs	0.318	0.321	0.054	5.876	0.000
H3a	Parental support->basic psychological needs	0.161	0.164	0.060	2.677	0.007
H3b	Teacher support->basic psychological needs	0.205	0.204	0.061	3.370	0.001
H4	Expectancy beliefs->basic psychological needs	0.317	0.316	0.057	5.529	0.000
H5	Basic psychological needs->autonomous motivation	0.213	0.214	0.052	4.093	0.000
H6	Autonomy support->basic psychological needs->autonomous motivation	0.068	0.068	0.019	3.593	0.000
H6a	Parental support->basic psychological needs->autonomous motivation	0.034	0.035	0.014	2.403	0.016
H6b	Teacher support->basic psychological needs->autonomous motivation	0.044	0.044	0.017	2.529	0.011
H7	Expectancy beliefs->basic psychological needs->autonomous motivation	0.068	0.068	0.023	2.977	0.003

The findings confirmed that students' expectancy beliefs are positively related to autonomous motivation and H2 was accepted. Whereas H3 was accepted as a study found that students' perceived autonomy support is positively related to basic psychological needs. According to findings of H3a, students' perceived autonomy support from parents is positively related to basic psychological needs. However, H3b was also accepted as the study found that students' perceived autonomy support from teachers is positively related to basic psychological needs. On the other hand, H4 is supported as it was found that students' expectancy beliefs are positively related to basic psychological needs.

Meanwhile, H5 was accepted as the study found that basic psychological needs are positively related to autonomous motivation. Moreover, the results confirmed H6 is accepted and basic psychological needs mediate between students' perceived autonomy support and autonomy motivation. The findings of this study confirmed that basic psychological needs positively mediate between students' perceived autonomy

support (parents) and autonomy motivation and H6a was accepted. Whereas the study also found H6b was also accepted and basic psychological needs positively mediate between students' perceived autonomy support (teacher) and autonomy motivation. Finally, the study found that basic psychological needs mediate between expectancy beliefs and autonomous motivation and H7 was accepted.

4. DISCUSSION

The empirical findings are discussed in the context of previous studies in this section. The study found that students' perceived autonomy support is positively related to autonomy motivation and H1 was supported. Furthermore, the study found that students' perceived autonomy support from parents and teachers have a significant impact on autonomy motivation. Hence, H1a and H1b were accepted. The findings of these relationships are discussed in the context of existing studies. According to Holster [31], to improve the students' general behavior, help is required. For the pupils, the assistance of the parents and teachers is essential. While, study by Aydın and Michou [7] discussed that when pupils are highly motivated, they design meaningful strategies to motivate themselves to reach their goals. According to Jeno *et al.* [3], it is thought that motivation plays a crucial part in achieving goals. Conversely, when pupils lack drive, it negatively affects their personalities because they hesitate to meet their goals. Moreover, it is believed that students' motivation plays a crucial part in their meaningful goal achievement [43]. Moreover, it becomes essential for the pupils to acquire motivation while they are engaged in active learning. In the meanwhile, parents and educators must do all it takes to help the pupils understand and perform better overall [28]. Students must learn positive psychology since it will help them accomplish their objectives. According to Tan and Levesque-Bristol [27], students need to be motivated from both internal and external sources in order to be pleased and reach their desired outcomes. As a result, it is thought that student perceived autonomy plays a crucial part in reaching the desired goals and that this perception is important.

The findings confirmed that students' expectancy beliefs are positively related to autonomous motivation and H2 was accepted. The findings of this relationship are discussed in the context of existing studies. According to Cai and Tang [32], the degree to which a person believes they can succeed in the work at hand including their own beliefs and abilities is measured by their expectation beliefs. When students take a serious approach to achieving their objectives, their expectations rise. According to Karimi and Sotoodeh [4], it is a helpful strategy for them to have confidence in their skills, which enhances their behavior for an important job. Furthermore, it is beneficial to assist pupils in reaching their objectives when they have positive motivation. According to Hsieh [33], a self-assured student has a clear vision for completing their assigned objectives. It supports the kids' behavior improvement, which is essential to their ability to function independently.

Whereas H3 was accepted as this study found that students' perceived autonomy support is positively related to basic psychological needs. According to findings of H3a, students' perceived autonomy support from parents is positively related to basic psychological needs. Furthermore, H3b was also accepted as the study found that students' perceived autonomy support from teacher is positively related to basic psychological needs. The findings of these relationships are discussed in the context of existing studies. According to Cho *et al.* [30], perceived autonomy among students helps them to do a variety of tasks. Enhancing their psychological health is essential since it enhances their performance. When parents assist their children, it makes it easier for them to meet their goals. According to Rován *et al.* [26], a factor that may lower students' success is a lack of parental support. However, students' motivation levels fluctuate throughout time, which has a big impact on how well they perform overall. Additionally, Kingsford-Smith and Evans [16] discussed that it helps pupils meet their basic psychological requirements when they are motivated by their lecturers. Students' sense of autonomy is derived from the satisfaction of their psychological needs, and this is vital for their academic success. According to Li *et al.* [25], students benefit from autonomy support since it makes them more motivated to meet goals. In order to improve their overall performance and learning, children must establish positive relationships with their parents and teachers. According to Santana-Monagas *et al.* [29], it gets harder for the pupils to work hard to meet their fundamental psychological requirements if they are dissatisfied with their autonomous support. After then, it is thought that a key component affecting pupils' performance is their level of autonomy.

Meanwhile, H4 is supported as it was found that students' expectancy beliefs are positively related to basic psychological needs. The findings of this relationship are discussed in the context of existing studies. According to Wei *et al.* [9], students' expectations contribute to reaching the desired outcomes. Pupils who feel encouraged and supported are more likely to meet their psychological demands. It aids in their development and teaches them how to handle the circumstance better. According to Diaz [23], one important component that might help pupils reach their goals is their expectation. Since these skills have a big impact on students' personalities, it is essential that students have confidence in their talents. According to Hernández *et al.* [35], it is strongly advised that students work in a way that can support their learning styles.

Furthermore, students' expectations for successfully completing assignments enhance their behavior in order to meet psychological demands.

Meanwhile, H5 was accepted as the study found that basic psychological needs are positively related to autonomous motivation. The findings of this relationship are discussed in the context of existing studies. According to Evans *et al.* [21], students that are motivated to meet their psychological requirements are better able to create healthy motivation. In addition, this kind of motivation helps pupils reach their goals when they have a strong psychological foundation. According to Wehmeyer and Shogren [15], when students take a substantial approach to achieving their goals and receive motivational support, their basic requirements are met. Nevertheless, in order to persuade pupils to achieve their desired outcomes, motivation is required. According to Zhou *et al.* [34], students that work hard are able to obtain the right parental support, which enhances their performance. Therefore, the accomplishment of meeting psychological demands or the battle to do so aids pupils in developing self-motivation, which has a significant impact on their performance.

Also, the results confirmed H6 is accepted and basic psychological needs mediate between students' perceived autonomy support and autonomy motivation. The findings of this study confirmed that basic psychological needs positively mediate between students' perceived autonomy support (parents) and autonomy motivation and H6a was accepted. Whereas, the study also found H6b was also supported and basic psychological needs positively mediate between students' perceived autonomy support (teacher) and autonomy motivation. The findings of these relationships are discussed in the context of existing studies. According to Yue and Lu [8], to increase students' self-motivation, it is important to address their basic psychological requirements. When parents support their children, the students are satisfied. Furthermore, to affect students' conduct as a whole, parents must help their children reach their goals. Pupils' ability to behave better generally depends greatly on the help they receive from their professors [24]. Teachers must assist their pupils in achieving their objectives. According to Liu and Huang [10], it aids in their achievement of their objectives and independence. Therefore, when people receive the right assistance, their motivation is affected. Similarly, when fundamental psychological requirements are met, achieving goals becomes essential. According to Conesa *et al.* [1], it encourages students to concentrate more on their objectives, which is important to raise their motivation levels. Students' autonomy is thought to be a major factor determining their behavior generally, and it is vital for them to perform well. Furthermore, students' perceptions of their parents' and instructors' support play a big role in how well their conduct and motivation for autonomy are improving.

Lastly, the study found that basic psychological needs mediate between expectancy beliefs and autonomous motivation and H7 was accepted. The findings of this relationship are discussed in the context of existing studies. According to Bрева and Galindo [19], it takes the satisfaction of psychological needs for students to raise their expectations. Student expectations play a significant part in inspiring them to achieve their objectives. When students' psychological needs are met, they feel empowered to reach their objectives. According to Zhao and Qin [20], students' lack of motivation and unmet psychological requirements negatively affects how well they complete their assignments. Furthermore, students ought to be expected to reach their objectives, since this might enhance their feeling of direction. According to Guay [2], it is advised that students work critically in the meantime to meet their objectives. It assists them in changing their conduct, which is required to meet the desired outcomes. Therefore, when students' motivation increases, so does their degree of motivation.

5. CONCLUSION

To conclude, the study discusses that there is need for students' autonomy support which should be boosted from factors other than parental and teachers support. It can positively influence the autonomous motivation of the students. Furthermore, the study recommends that the expectancy beliefs of the students should be triggered to improve their overall behavior for their critical performance related to autonomous motivation. Moreover, the study discussed that there is substantial need for the active involvement of the teachers to influence students for autonomy support and parents should play an active role. It will influence the basic psychological needs of the students. In addition, the study concludes that active working is required for this purpose to focus on the psychological needs of the students. Besides, the study recommends to work only with autonomy support, parental support and teachers' support for the students when the basis psychological needs are achieved. It is a significant factor to contribute to improving autonomous support for the students. Finally, the research recommends to work on the basic psychological needs of the students as it helps to improve their overall behavior for autonomous support. To sum up, the role of basic psychological needs is significant for improving the students' autonomous motivation.

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Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
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C : **C**onceptualization

M : **M**ethodology

So : **S**oftware

Va : **V**alidation

Fo : **F**ormal analysis

I : **I**nterpretation

R : **R**esources

D : **D**ata Curation

O : **O**rganizational

E : **E**xperimental

Vi : **V**isualization

Su : **S**upervision

P : **P**roject administration

Fu : **F**unding acquisition

CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study.

ETHICAL APPROVAL

The research related to human use has been complied with all the relevant national regulations and institutional policies in accordance with the tenets of the Helsinki Declaration and has been approved by the authors' institutional review board or equivalent committee.

DATA AVAILABILITY

Derived data supporting the findings of this study are available from the corresponding author [QX], on request.

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